

REMARKS

Reconsideration of the patent application in view of the preceding amendments and the following remarks is respectfully requested.

Objection To The Drawings

In the office action dated 7/17/2003, the Examiner objected to the drawings. Specifically, the Examiner stated

In the office action dated 7/17/2003, the Draftsperson objected to the drawings. Specifically, the Draftsperson note informalities in the original drawings. A set of formal drawings are hereby proposed. The Applicants respectfully request approval of the proposed formal drawings.

Rejection of the Claims Under 35 U.S.C. § 112, second paragraph

In the office action dated 7/17/2003, the Examiner rejected claims under 35 U.S.C. § 112, second paragraph. Specifically, the Examiner rejected claims as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention due to informalities within the claims. In response, the applicants have amended the claims to cure the cited informalities. Withdrawal of the rejection is respectfully requested.

Rejection of the Claims Under 35 U.S.C. § 102(b) and § 103

In the office action dated 7/17/2003, the Examiner rejected claims under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a). The Examiner stated that the claims 1, 2, 4, 5, and 7 were anticipated by U.S. patent 5,400,072 issued to Izumi, et al. (hereinafter referred to as the Izumi, et al reference). In addition, the Examiner stated that the remaining claims are unpatentable over the Izumi, et al reference in view of other cited art. The Applicants respectfully traverse.

The present invention introduces a self-contained camera subassembly that is sealed to prevent ingress of contaminants. The camera subassembly of the present invention includes all of the critical optical elements and image capture elements are sealed within a housing. The optical elements include at least one lens coupled to an electrically controlled movement apparatus that allows the camera assembly to adjust the distance between the lens and the image capture device without any mechanical input.

With regard to claims 1 to 28

Claim 1 has been amended to highlight the fact that the system of the present invention allows the lens system in the sealed subassembly to be electrically controlled. By providing a camera subassembly with an electrically controlled lens system in a sealed unit, the camera subassembly of the present invention may be created at a carefully controlled assembly plant and then shipped to a less controlled assembly plant wherein no careful alignment procedures are required. Furthermore, no contaminants from the less controlled assembly plant will harm the camera subassembly

since it has already been sealed. The Izumi, et al reference fails to disclose the sealed camera subassembly of the present invention that uses an electrically controlled lens system as required by amended claim 1.

The Examiner cited U.S. patent 5,572,372 issued to Sekine, et al. (hereinafter referred to as the Sekine, et al reference) as teaching that it is well known in the art to drive a lens group using an electric coil. However, the Sekine, et al reference makes no teaching of creating a self-contained sealed camera subassembly. The creation of a self-contained sealed camera subassembly is a critical feature of the present invention. As previously set forth, a sealed camera subassembly allows all the precision work and clean work to be performed at a single facility to create the sealed camera subassembly. The camera subassembly may then be shipped to a low labor cost assembly plant for the creation of end-user consumer products. Since the Sekine, et al reference does not disclose, teach, nor even hint toward the creation of a sealed assembly, the sealed camera assembly of the present invention is patentable over the Sekine, et al reference.

With regard to claims 29 to 34

Claim 29 has been amended to include the material from claim 31 that the examiner indicated would be allowable. Allowance of claim 29 and the accompanying dependent claims is respectfully requested.

With regard to claim 35

Claim 35 has been amended to clarify the patentable advantages of the sealed camera subassembly of the present invention. Specifically, claim 35 fully describes a method of creating a sealed camera sub assembly that includes a sealed moveable lens that may be electrically controlled. The claimed steps require mounting a lens within an enclosure using a flexible member which allows for backwards and forward movement of the lens relative to the housing and mounting a substrate to the second opening of the housing, the substrate and a window jointly define an enclosure which is substantially sealed against ingress of contamination wherein the flexible member coils around an axis which extends in the direction in which light passes through the housing lens. These steps produce the novel camera subassembly that is allowable for the same reasons set forth with respect to claim 1. Allowance of claim 35 is respectfully requested.

With regard to claim 36

Claim 36 has been amended to include the material from claim 29 that the examiner indicated would be allowable. Specifically, the Examiner stated that “the primary reason for indication of allowable subject matter is that the prior art fails to teach or reasonably suggest that the first elongate member coils around the axis of revolution.” Allowance of claim 36 is respectfully requested.

CONCLUSION

In view of the foregoing, it is submitted that the claims are in condition for allowance. Reconsideration of the rejections and objections is requested. Allowance is earnestly solicited at the earliest possible date.

Respectfully submitted,

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Dated: 1/20/2004



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